

**ABSTRACT**

The present invention aims at providing a photodetector capable of fast operation with inclusion of A/D converting circuits. With a photodetector 1,  $(K \times M \times N)$  photodiodes  $PD_{k,m,n}$  are arranged in  $M$  rows and  $(K \times N)$  columns in a photodetection unit 10, and processes (electric charge accumulation, CDS, filtering, and A/D conversion) regarding each of the  $(K \times N)$  photodiodes  $PD_{k,m,n}$  ( $k = 1$  to  $K$ ,  $n = 1$  to  $N$ ) of each row are carried out successively at each time  $T$ . Meanwhile, each of an electric charge accumulation operation in an integrating circuit  $20_{m,n}$ , a CDS operation in a CDS circuit  $30_{m,n}$ , a filtering operation in a filter circuit  $40_{m,n}$ , and an A/D conversion operation in an A/D converter  $50_{m,n}$  is carried out at each time  $(N \times T)$ .